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IS 10738 (Part 5/Sec 3) : 1992

(Reaffirmed 2002)

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तरंग पथकों के लिये फ्लैंज – विशिष्टि

भाग 5 मध्यम आयताकार तरंगपथकों के लिए फ्लैंज

अनुभाग 3 फ्लैंज टाइप एन

Indian Standard

FLANGES FOR WAVEGUIDES — SPECIFICATION

PART 5 FLANGES FOR MEDIUM FLAT RECTANGULAR WAVEGUIDES

Section 3 Flange Type N

UDC 621·372·831 : 621·372·822

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BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

January 1992 **Price Group 3**

Microwave Components and Accessories Sectional Committee, LTD 19

FOREWORD

This Indian Standard (Part 5/Sec 3) was adopted by the Bureau of Indian Standards, after the draft finalized by the Microwave Components and Accessories Sectional Committee had been approved by the Electronics and Telecommunication Division Council.

This standard shall be read in conjunction with IS 10738 (Part 1) : 1983 'Flanges for waveguides: Part 1 General requirements and tests', and IS 10738 (Part 5/Sec 1) : 1991 'Flanges for waveguides: Part 5 Flanges for medium flat rectangular waveguides', Section 1 General.

Different types of waveguide flanges are being covered in the following parts of IS 10738:

Part 1	General requirements and tests
Part 2	Flanges for ordinary rectangular waveguides
Part 3	Flanges for flat rectangular waveguides
Part 4	Flanges for circular waveguides
Part 5	Flanges for medium flat rectangular waveguides
Part 6	Flanges for square waveguides.

This Part 5 of IS 10738 is being issued in the following three sections:

Sec 1	General
Sec 2	Flange Type L
Sec 3	Flange Type N

While preparing this standard assistance has been derived from IEC Pub 154-6 (1983) 'Flanges for waveguides : Part 6 Relevant specification for flanges for medium flat rectangular waveguides,' issued by the International Electrotechnical Commission (IEC).

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

FLANGES FOR WAVEGUIDES — SPECIFICATION

PART 5 FLANGES FOR MEDIUM FLAT RECTANGULAR WAVEGUIDES

Section 3 Flange Type N

1 SCOPE

This standard (Part 5/Sec 3) lays down dimensional requirements for Flanges Type N for medium flat rectangular waveguides.

2 REFERENCES

The following Indian Standards are necessary adjuncts to this standard:

IS No.	*Title*
4493 (Part 3) : 1982	Hollow metallic waveguides : Part 3 Medium flat rigid rectangular waveguides
10738 (Part 1) : 1983	Flanges for waveguides : Part 1 General requirements and tests
10738 (Part 5/Sec 1) : 1991	Flanges for waveguides : Part 5 Flanges for medium flat rectangular waveguides, Section 1 General (*under print*)

3 CLIMATIC CATEGORY

Provisions of **3** of IS 10738 (Part 1) : 1983 shall apply.

4 MATERIALS, CONSTRUCTION AND WORKMANSHIP

Provisions of **4** of IS 10738 (Part 1) : 1983 shall apply.

5 DESIGNATION OF FLANGES FOR WAVEGUIDES

Provisions of **5** of IS 10738 (Part 1) : 1983 shall apply.

6 MARKING

Provisions of **6** of IS 10738 (Part 1) : 1983 shall apply.

7 PACKAGING

Provisions of **7** of IS 10738 (Part 1) : 1983 shall apply.

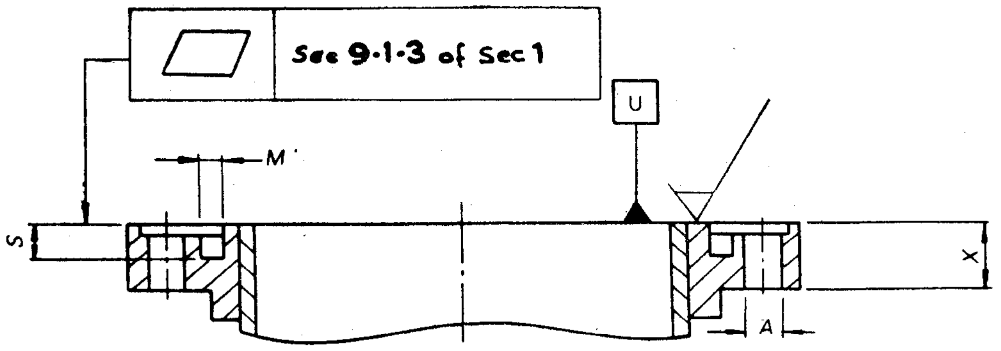
8 DIMENSIONAL REQUIREMENTS

The outline and dimensions for pressurizable Type N flanges shall be in accordance with Table 1, and Fig. 1 to 3.

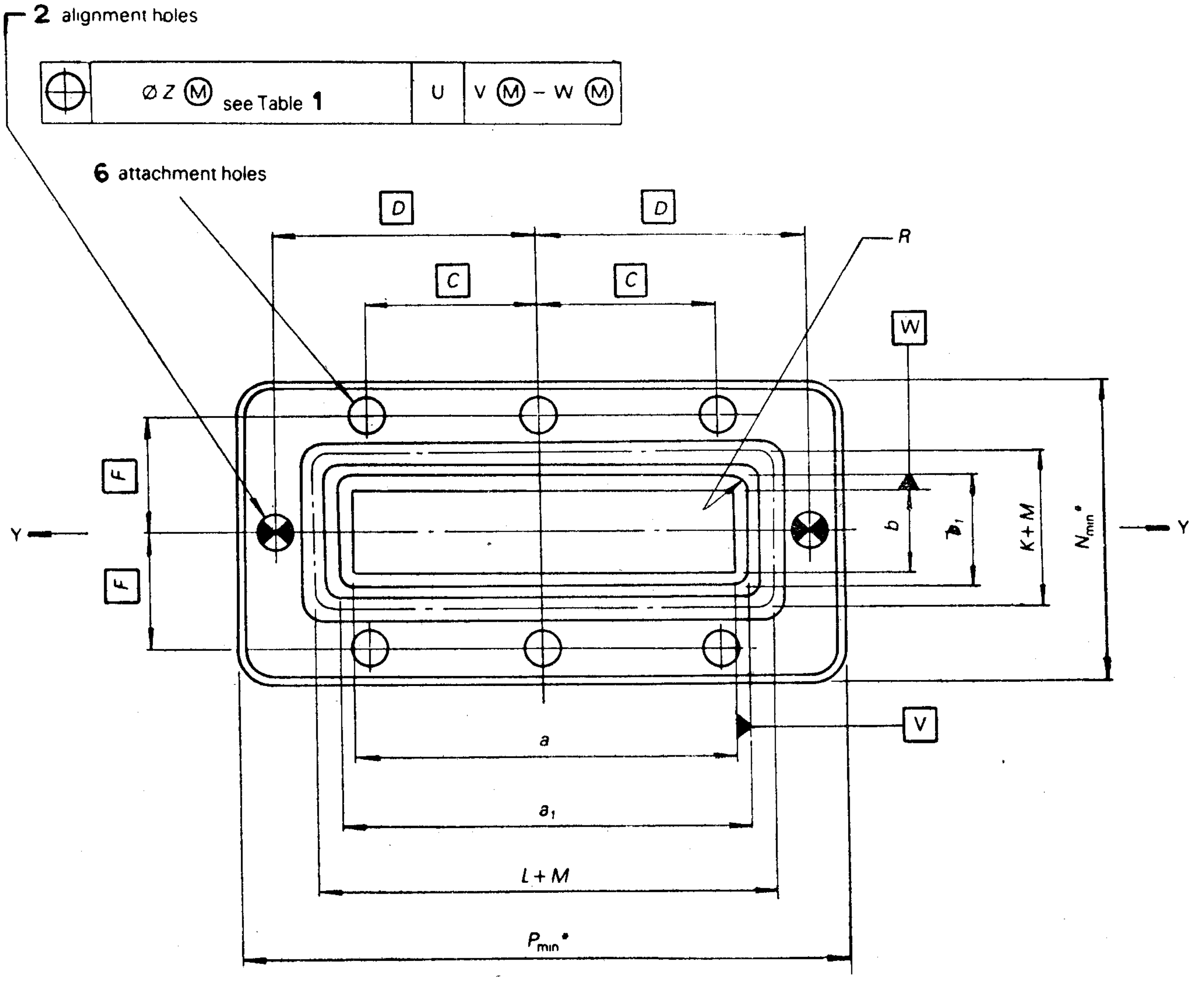
9 TESTS

Provisions of **9** of IS 10738 (Part 5/Sec 1) : 1991 shall apply.

FLANGE TYPE N	IS 10738 — PNM 14-40	FIG. 1



Cross-section YY

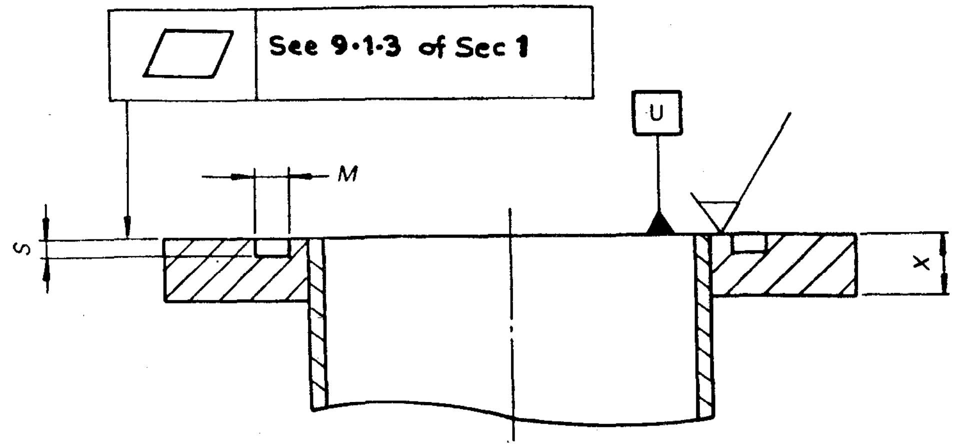


Front view

* These dimensions are not essential for the mating of two assemblies.

First angle projection

FLANGE TYPE N | IS 10738 — PNM 45 | FIG. 2



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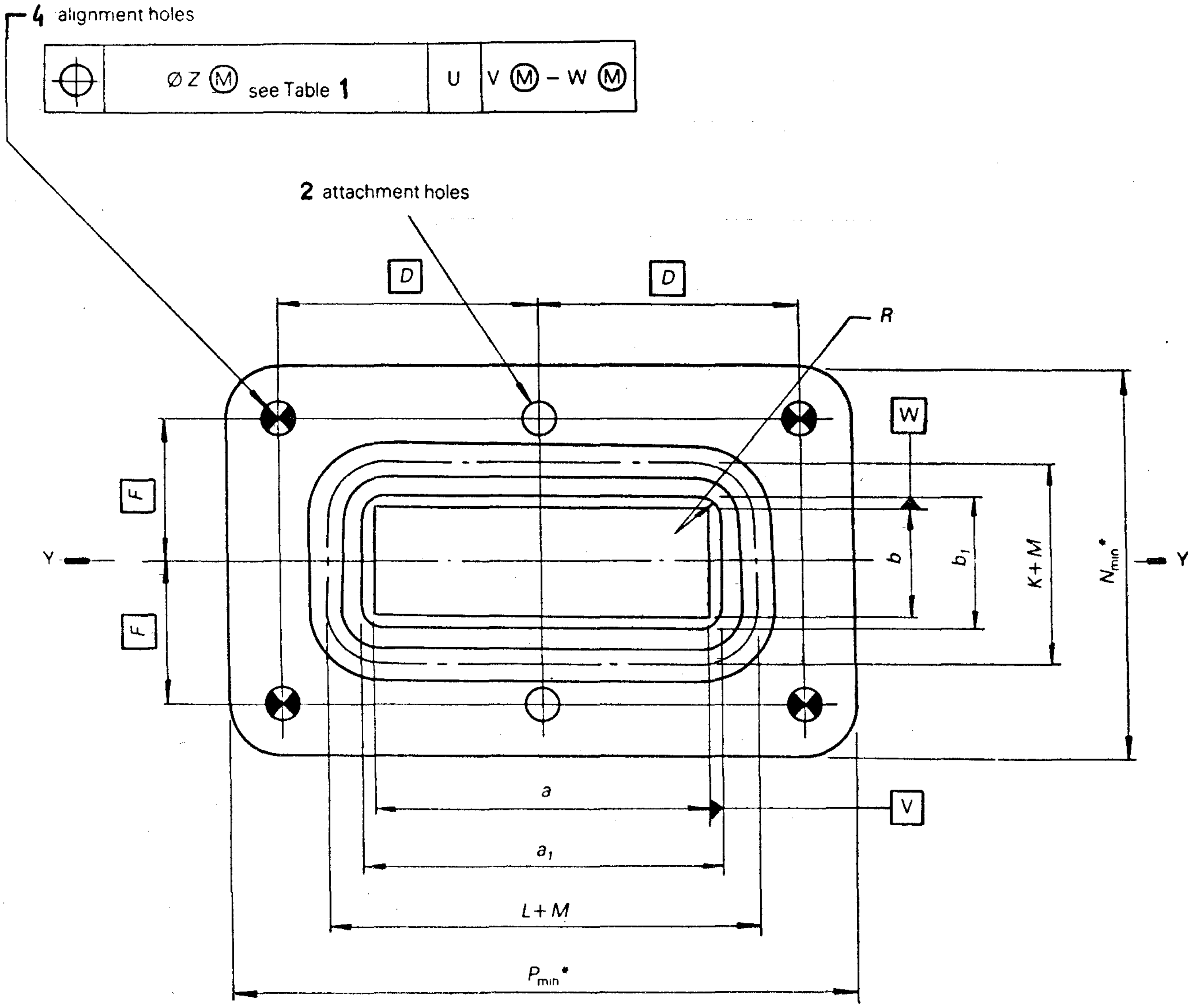
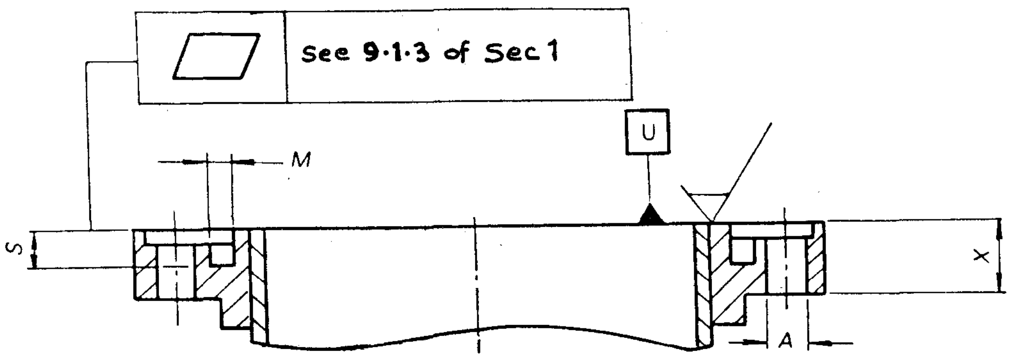


Front view

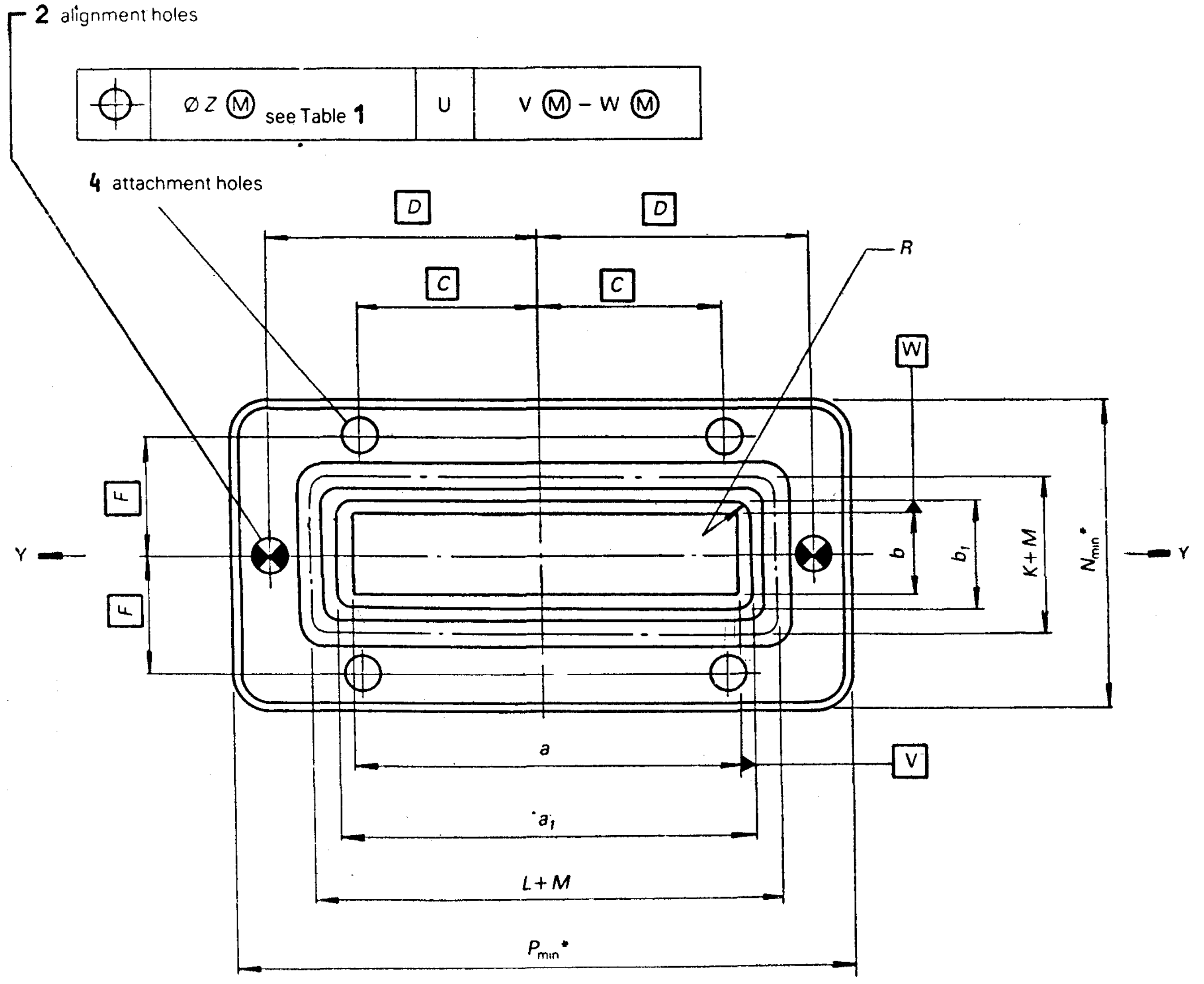
* These dimensions are not essential for the mating of two assemblies.

First angle projection

FLANGE TYPE N	IS 10738 — PNM 48-70	FIG. 3



Cross-section Y Y



Front view

* These dimensions are not essential for the mating of two assemblies.

First angle projection

Table 1 Dimensions of Type N Flanges for Medium Flat Rectangular Waveguides

All dimensions in millimeters.

Type designation of waveguide flanges IS 10738	To be used with waveguide	Figure	Dimensions for holes							$^{1)}$ a_1	$^{1)}$ b_1	$^{2)}$ P_{min}	$^{2)}$ N_{min}	$^{2)}$ X	R_{max}	$2C$	$2D$	$2F$	$⌀Z$ Positional Tolerance	$k+M$	$L+M$	M	S (For Information only)	Diameters for locating bolts			
				Alignment holes			Attachment holes																				
			Diameter Abasis	Fit	Deviation		Fit	Deviation																Shank diameter	Fit	Deviation	
					Lower	Upper		Lower	Upper																	Lower	Upper
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
PNM 14	M14	1	8·000	A9	+0·280	+0·316	A15	+0·280	+0·860	169·16	45·36	220·7	96·9	12·7	1·0	120·60	200·00	76·13	0·10	58·3	182·1	7·26	5·9	8·000	h8	−0·022	0
PNM 18	M18	1	8·000	B9	+0·150	+0·186	B15	+0·150	+0·730	133·60	36·46	185·0	87·6	12·7	1·0	100·08	165·00	67·71	0·10	49·9	147·3	7·26	5·9	8·000	h8	−0·022	0
PNM 22	M22	1	6·350	B9	+0·150	+0·186	B15	+0·150	+0·730	113·28	31·36	161·1	79·1	12·7	1·0	90·78	141·98	60·07	0·10	43·8	125·7	7·26	5·9	6·350	h8	−0·022	0
PNM 26	M26	1	6·350	B9	+0·150	+0·186	B15	+0·150	+0·730	90·42	25·66	138·1	73·7	12·7	1·0	68·28	119·06	54·62	0·10	38·1	102·9	7·26	5·9	6·350	h8	−0·022	0
PNM 32	M32	1	6·350	B9	+0·150	+0·186	B15	+0·150	+0·730	76·20	22·06	114·3	60·7	10·0	1·0	65·08	97·22	43·10	0·10	30·1	84·2	4·78	3·9	6·350	h8	−0·022	0
PNM 40	M40	1	6·350	B9	+0·150	+0·186	B15	+0·150	+0·730	61·42	17·75	98·4	55·3	10·0	0·8	54·36	82·30	38·76	0·10	25·6	69·3	4·78	3·9	6·350	h8	−0·022	0
PNM 48	M48	3	6·350	C9	+0·080	+0·116	C15	+0·080	+0·660	50·80	15·15	88·9	53·3	10·0	0·8	28·58	71·82	36·19	0·05	23·1	58·7	4·78	3·9	6·350	h8	−0·022	0
PNM 58	M58	3	6·350	C9	+0·080	+0·116	C15	+0·080	+0·660	43·64	13·35	81·0	51·8	10·0	0·8	25·40	64·66	34·37	0·05	21·2	51·5	4·78	3·9	6·350	h8	−0·022	0
PNM 70	M70	3	5·000	C9	+0·070	+0·100	C15	+0·070	+0·550	38·10	11·95	68·3	42·1	10·0	0·8	22·22	55·58	29·42	0·05	18·7	44·8	3·58	3·9	5·000	h8	−0·018	0
PNM 45$^{3)}$	M45	2	4·000	C9	+0·070	+0·100	C15	+0·070	+0·550	53·95	20·10	92·7	58·74	8·33	0·8	—	77·78	43·64	0·05	24·88	65·11	4·78	3·9	4·000	h8	−0·018	0

NOTES

1) These values are basic values of the outside cross-section of the waveguide according to IS 4493 (Part 3) : 1982. They should be regarded as basic values for the aperture according to 8.3.11 of IS 10738 (Part 1) : 1983, that apply to unmounted flanges only.

For through flanges, the actual range of deviation for the mounting aperture depends on the assembling method and should therefore be agreed upon by both purchaser and manufacturer.

2) These dimensions are not essential for the mating of two assemblies.

3) This type is included as an additional one because of its use in existing telecommunication equipment.

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